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**THE HISTORY OF PREVENTIVE
MEDICINE IN THE SOUTH.**

BY


**JOSEPH HOLT, M. D., of New Orleans,
Ex-President of the Louisiana State Board of
Health; and Author of "The System of
Modern Maritime Sanitation."**

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One of a Symposium of ten
original articles on
The Varying Aspects of Preventive Medicine."

THE HISTORY OF PREVENTIVE MEDICINE IN THE SOUTH.

By JOSEPH HOLT, M. D., of New Orleans,
Ex-President of the Louisiana State Board of Health; and Author of "The
System of Modern Maritime Sanitation."

To compress within a limited space a review of the health history of a great metropolis or of fourteen states, with varying experiences and millions of inhabitants, would hopelessly exceed the possibilities of ingenuity but for the saving ability to generalize under natural law the facts of causality. To apply any standard of measurement to the South, we must justly bear in mind that, within the memory of persons now living, many of these states were largely in primeval forest and unbroken prairie—the home and hunting-ground of Indians. We must also bear in mind that a knowledge of hygiene, as an established science, is a product of the latest enlightenment through clinical experience and biological research. So recent, indeed, that the ninth edition of the Encyclopaedia Britannica of 1878 makes brief mention, severely technical, of the subject, treated under four or five headings; while the eleventh edition, in thirty-four divisions and references, devotes thousands of words to popular instruction in hygienic knowledge and the art of sanitary defence.

Hardly out of the cradle of experimental infancy, its robust development is a modern wonder, even in these times when nothing can amaze. Its revelations, already trite in the public mouth, were hardly dreamed of as speculative possibilities twenty years ago. We must remember that from their earliest settlement, the seaboard states of the South, in addition to the ordinary exanthemata and other infections common to the temperate zone, were compelled to bear the brunt of pestilential foreign invasion along several thousand miles of Atlantic and Gulf littoral: from Baltimore to Key West, thence to the Rio Grande and nearly the length of that river as the Mexican boundary, wide open to commerce and the concomitant entry of the morbidiferous fauna and flora of the tropics, particularly the hypothetical protozoön of yellow fever, the *S. cholerae asiatica* and the *B. pestis*.

Through all the years of its medical history, the health officers and medical practitioners of the South, under the spur of necessity, have kept in close touch with the world's best thought and experience in clinical recognition and treatment, but especially in proposed methods of defence against introduction; the states themselves and communities, backing these efforts with ample authority and appropriations.

As long ago as June, 1884, the state of Louisiana, desperately wearied

of the perpetually recurring outbreaks of imported pestilence, fatal alike to her people and to the public livelihood, appropriated \$30,000 as an experimental venture, based upon faith in the logical validity of the writer's argument before the Legislature, urging the substitution of Maritime Sanitation, of brief duration and moderate charges, for Quarantine of long delay, as its name implies, and of ruinous cost: a flimsy veil to infections but an effectual bar to commerce.

These remarks were reiterated, a few months later, before the American Public Health Association in Washington. To quote briefly: "The term maritime sanitation, is in itself a complete acknowledgment of allegiance to the germ theory of infections, just as the word quarantine carries within itself the idea of prolonged detention; an acknowledgment of utter ignorance of all the conclusions established by modern observation of the phenomena of these diseases, confirmed by microscopic research and experimental tests.

"We no longer fight the machinations of the devil or the devil himself, but a microscopic or ultramicroscopic germ—a living ferment—which, if not speedily destroyed, soon leaveneth the whole lump.

"If the essential element or originating principle of smallpox, yellow fever or cholera can be demonstrated to exist within a definite and circumscribed limit, as in the field of a microscope, on the point of a scalpel, within the compass of a hypodermic syringe or the hull of a ship, and is capable of indefinite extension beyond that limit, it is conclusive that the essential cause or virus, having power of extension, can only do so by reproduction. It is, therefore, a living entity, and being definable *in loco* can be destroyed *in loco*.

"Seeing the germ satisfies the intelligence and confirms belief, but is not essential to the validity of disinfection.

"This is the sum of all the law governing maritime sanitation. When the entire atmosphere within a ship has been displaced with concentrated sulphurous acid gas, we have availed ourselves of the highest assurance offered in practicable and speedy disinfection. There is but one guarantee of a more positive kind—total destruction by fire."

Having invented and applied the apparatus competent to complete the work speedily, and to wet all surfaces with a solution of mercuric bichloride—1:1,000—but not aware of the mosquito and of the rat-flea, as intermediate hosts, from kelson to cross-trees, every mosquito, rat, roach and other biological form were destroyed; anticipating in successful results, through irrefutable logic of induction, the later findings of the mosquito theory of transmission in the report of the Yellow Fever Commission at Havana published October, 1900.

Even to this day, the essential virus of yellow fever is ultramicroscopic, not seen in mosquito or ship, but logically inferred, as it was by New Orleans, sixteen years earlier, when, through inference, she demonstrated her protection against this foreign infection and had already taught the world.

A control test in final proof was furnished when, on occasion of unfaithfulness and utter neglect of scientific management, yellow fever entered at once and repeatedly with widespread disaster. The Federal Government finally took charge with a master hand, and then a complete cessation.

From 1869 to 1879, eleven years inclusive, yellow fever occurred here every year, with a total mortality of 5,096. During the seventeen years following, there were ten deaths and yellow fever ships in brief detention of sanitation every year, while people ceased to be afraid. Introduced six times, not in shipping, prompt recognition, no concealment, a total reliance in the sufficiency of applied science, no spread.

SCHOOL OF TROPICAL MEDICINE.

As an imperative necessity of health protection, in the conservation of the productive industries and commerce, the construction of the Panama Canal and the powerful interests developed under the management of the Tropical Fruit Trade have compelled the enlistment of exact knowledge imparted through technical training of medical men, in order to safeguard these vast interests in the territories of demand and supply against the transmission of infections, and to protect the territories, within themselves, from the insidious ravages of the diseases of tropical and semi-tropical regions.

These enormous industrial enterprises, by common consent and the strongest material encouragement, have founded the Department of Tropical Medicine, Hygiene and Preventive Medicine, in Tulane University, as already the logical centre for a School of Tropical Medicine in the Western Hemisphere.

SANITARY HISTORY REGISTERED IN MORTALITY CHART.

Hygiene and preventive medicine are correlative, as inseparably as cause and effect.

It has taken nearly two centuries for the American people to evolve, through education and the spread of ideas, into a full knowledge and working acceptance of this fact: that Nature exacts her penalties to the uttermost farthing, unmoved by bonfires of tar-barrels, religious processions and long-drawn prayers, desperately urged by ignorance, superstition and terror.

Invariably swamped by these methods, their failure has compelled us to rely upon the intellectual spirit within to tell why fire will burn, water drown, putridity poison, uncleanness devitalize and degrade, how pestilence will appear and spread, and all under natural law—as coercive of evil consequences as of good, with equal indifference.

For convenience and to illustrate universal principles that may be reflected in diagram upon the health-chart of any community or state, we

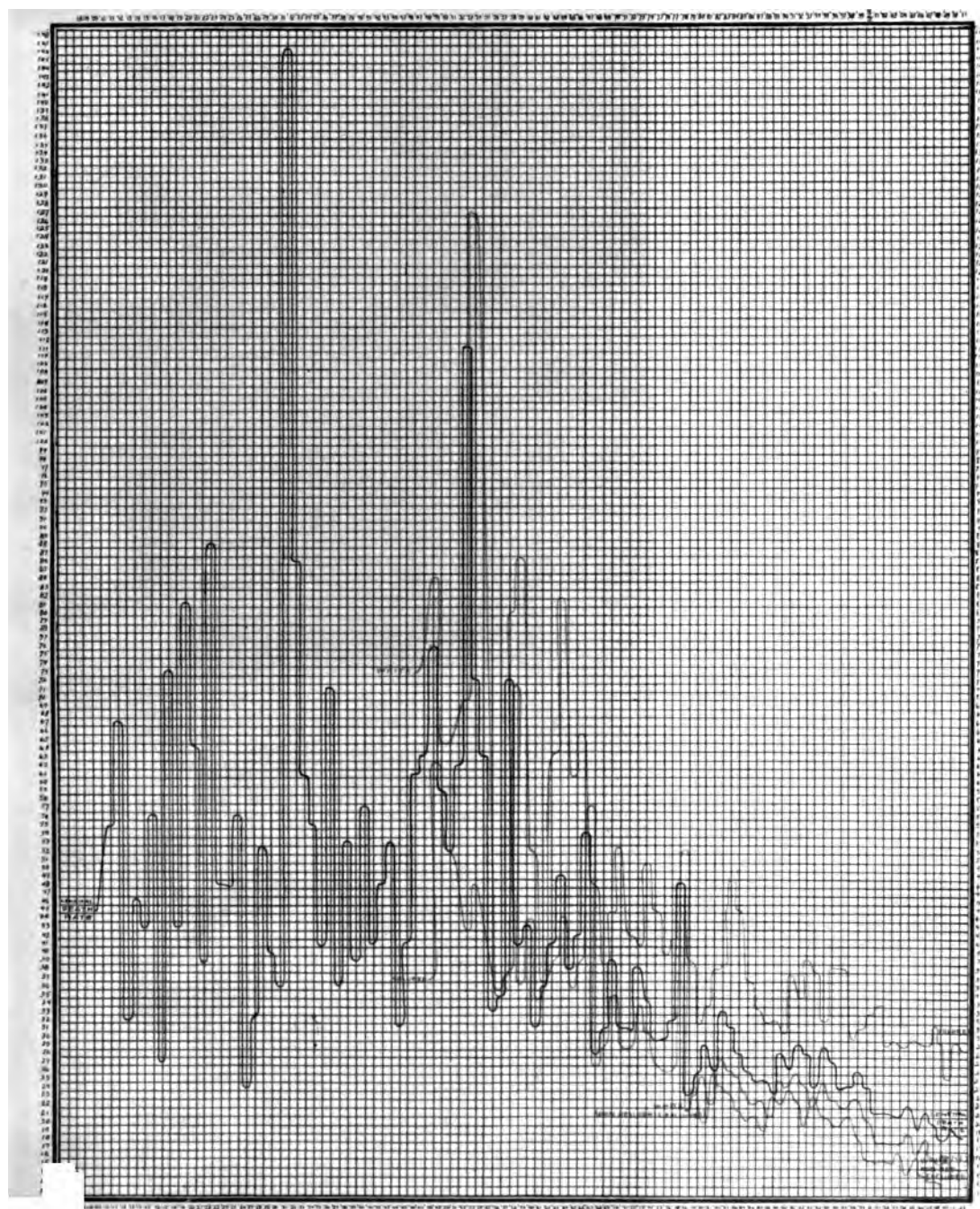
present the wonderful mortality chart, worked out by the late Dr. Sidney L. Thérard, of the City Board of Health of New Orleans. These zigzag markings, mostly hieroglyphs of our early civilization, exhibit an epitome of all the histories and medical writings on the health of New Orleans. It merely requires competent interpretation. Every movement in the rise and fall of these multicolored lines registers a sanitary violation or a conformity. These mighty leaps upward in the scale chronicle the epidemic advent of imported pestilence. The chart is based upon the death-rate per 1,000, as a sure index of the general health. It begins with the year 1808, showing the mortality of a people desperately struggling against incredible hardships and adversity, in a vast and savage wilderness far from a scarcely redeemed swamp, hedged about by a swamp, exposed to vicissitudes of wind and weather, with few comforts, no sewerage, and no sanitary supply of water, and the port wide open to filthy, over-crowded ships from Havana and San Domingo. Deaths per thousand were up to 46, 58, 40, then a decline to 33; then the prodigious mortality of 1832, when it vaulted to 53; one in every six and three-quarters died. After that it rarely fell below 38 in 1853—yellow fever; then it rose to 53, when the city, under the guidance of Dr. Thérard, inaugurated a campaign of general cleaning. The death-rate then fell to 26 per thousand.

The epidemic of 1832, with its mortality of 53; the last of those dreadful figures of the days of *laissez-faire*, so fraudulently imposed upon our credulity by tradition as the good old times—amid the festering accumulation of a city's excreta.

The consternation was sufficient to arouse the whole people to an intense interest in the public health protection, including the invention and installation of a modernized system of maritime sanitation as the only salvation of the seaboard and the highest possible guarantee of safety for the interior.

Under compulsion of necessity and by main strength of moral determination and prodigious activity, New Orleans was pulled over the great divide—as registered in the chart—between the anarchy of corruptible matter in horrible domination and the present reign of enlightenment under hygienic law.

Pari passu with the extension of paving and of the sewerage and drainage systems, there has been an amazing betterment. For 1908, closing a century of this chart, the death-rate had fallen to 17, and in 1912, whites 13.88, colored 16.78 per thousand; thus putting New Orleans, with



Mortality Chart, New Orleans, showing the general death-rate from 1808 to 1911, the death-rate by color since 1847, and the white death-rate, exclusive of non-residents, since 1880.



a large and mixed population of 370,000, in an assured position among the healthiest of cities.

SUMMARY OF EVIDENCE.

In the foregoing exhibit, through many years of comparison, we observe the health conditions of a people in an environment of absolute sanitary neglect, and, later, of the same people chastened in a school of hard experience, finally emerging through education into willing and obedient subjection to hygienic law, with all of its blessings of decency, health and comfort.

Omitting a weary recital of health incidence in each of the many states, we have endeavored to illustrate, through local example, a generalized statement of the laws of causality, of development and progress, with special schemes of permanent control, and of management to meet emergencies affecting the public health, presented synthetically as—The Philosophy of the History of Preventive Medicine in the South.

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